

# H-Gram 021: Operation Avalanche, Fritz X, and the Battle of Durazzo

18 September 2018

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("Back issue" H-grams can be found <https://www.history.navy.mil/about-us/leadership/director/directors-corner/h-grams.html>.)



LCVPs from USS Andromeda (AKA-15) head for the Salerno beach during Operation Avalanche, 9 September 1943 (80-G-54082).

## 75th Anniversary of World War II

### ***Operation Avalanche—The Invasion of Italy, September 1943***

*On 11 September 1943, the day after the light cruiser USS Savannah (CL-42) inflicted serious damage on German armor attempting to throw the Allied invasion force back into the sea at Salerno, Italy, the Luftwaffe struck back with a new weapon that would change the nature of warfare forever: the Fritz X, a radio-controlled glide-bomb that was the world's first precision-guided weapon deployed*

*in combat— and the first to sink a ship. Dropped from over 18,000 feet, well above shipboard anti-aircraft fire, the 3,000-pound Fritz X achieved trans-sonic velocity as the operator aboard the Dornier Do 217K-2 twin-engine bomber guided the weapon to a direct hit on Savannah's No. 3 turret, penetrating the armored roof all the way to the lower ammunition handling room, where it exploded, blowing out the bottom of the ship (which prevented a magazine explosion due to the massive influx of water) and opening a long seam in the side of her hull. For 30 minutes, secondary explosions wracked the forward*

part of the ship and the forecastle came within inches of going under.

The explosions and toxic gases killed 197 Savannah crewmen, about one fifth of the crew, and all but a handful of men forward of the superstructure, including the entire No. 1 damage control crew in central station. The explosions snuffed out all boilers, leaving the ship listing and dead in the water for eight hours. Nevertheless, led by Captain Robert W. Carey (who already had a Medal of Honor and a Navy Cross to his credit), her surviving crew rallied, and, in an extraordinary feat of damage control, stopped the flooding, corrected the list, put out the fires, re-lit the boilers, resumed firing on German positions from the cruiser's aft turrets, and made it to Malta under her own power, an incredible example of toughness and resilience by a crew that was not about to give up their ship. Two days earlier, German aircraft had sunk Roma, the largest battleship in the Italian navy, as she was steaming to switch sides from the Axis to the Allies. Two Fritz X hits sent Roma to the bottom with a catastrophic explosion and the loss of 1,393 Italian sailors, including the commander of the Italian fleet, Vice Admiral Carlo Bergamini.



USS Savannah (CL-42) is hit by a German radio-guided Fritz X bomb while supporting Allied forces ashore during the Salerno operation, 11 September 1943. The bomb hit the top of the ship's number three 6-inch/47-caliber gun turret and penetrated deep into her hull before exploding. The photograph shows the explosion venting through the top of the turret and also through Savannah's hull below the waterline. A motor torpedo boat (PT) is passing by in the foreground (NH 95562).

Operation Avalanche, the Allied amphibious landings at Salerno, Italy, beginning on 9 September 1943, were nearly a disaster. Lulled by word of an armistice between Italy and the Allies, and hopeful of meeting minimal or no resistance from Italian forces, the American and British troops who landed at

Salerno instead found themselves outnumbered by German Panzer divisions ready and willing to fight. German counterattacks were so aggressive that at one point the U.S. commander, General Mark Clark, wanted his troops evacuated off the beach and consolidated with the British. Admiral Kent Hewitt, the U.S. naval commander (and overall Allied amphibious force commander) helped convince Clark otherwise. Although great credit most go to the stiff resistance of American and British ground forces in the face of determined German attempts to push them back off the beachhead, much must also go to the naval gunfire support provided by U.S. and British ships, especially the rapid-fire six-inch guns of Savannah and her sister, USS Philadelphia (CL-41), and later USS Boise (CL-47), of the class known by the Japanese as "machine-gun cruisers" (armament that was a double-edged sword when the ships ran out of flashless powder in night battles in the Solomons). The German ground forces and artillery had no answer for the firepower from the light cruisers, which decimated multiple German tank attacks and caused the ships to be put at the very top of the Luftwaffe's target list in their attempt to defeat the landing.

After a vicious and bloody fight ashore, and multiple Allied ships being hit and put out of action by German guided glide bombs (for which the Allies had no initial answer), including the British battleship HMS Warspite, the Allies nevertheless carried the day, and established a major foothold in Italy. This would be followed by a protracted, costly, high-casualty campaign, which neither the Americans nor the Germans wanted. The U.S. Navy would lose three destroyers and over 800 men in the Salerno operation, making it one of the costliest naval operations of the war.

Please see this H-gram's attachments for more on the Fritz X (H-021-1) and Operation Avalanche and the precursor invasion of Sicily, Operation Husky (H-021-2)

## 100th Anniversary of World War I

As World War I reached its bloody culmination in August–September 1918, during which the

overwhelming number of U.S. Army Expeditionary Force troops began to roll back the Germans, there were several significant U.S. Navy developments:

- On 21 August 1918, Navy Enlisted Pilot Charles Hammann landed his own damaged seaplane in the northern Adriatic to rescue a fellow downed naval aviator who had been shot down by Austro-Hungarian aircraft defending the naval base at Pola. In doing so, Hammann would become the first U.S. aviator of any service to be awarded the Medal of Honor.
- On 6 September, a U.S. Navy 14-inch railway gun on the Western Front in France opened fire on German strategic positions. Five U.S. railway guns would fire over 700 rounds at German targets in the last two months of the war (including possibly the very last shot of the war). The U.S. Navy railway guns represented an extraordinary example of innovation, rapid prototyping, production, testing, acquisition, and deployment.
- On 20 September 1918, Lieutenant David Ingalls, USNR, became the first U.S. Navy "ace" (and the only U.S. Navy ace during the conflict), when he shot down his fifth German aircraft, a lone fighter. Flying with a Royal Air Force Sop with Camel squadron, Ingalls would finish with six kills, including a German observation balloon.
- On 26 September 1918, the U.S. Coast Guard cutter Tampa, under U.S. Navy wartime subordination, was torpedoed and sunk by German submarine UB-91 in the Bristol Channel off Wales, with the loss of all 131 people aboard (111 U.S. Coast Guard, four U.S. Navy, 11 Royal Navy enlisted sailors, and 5 British dockyard workers). This was largest loss of U.S. life aboard a warship due to enemy action in World War I. As a result, the U.S. Coast Guard suffered proportionately the largest loss of life of any U.S. service during the war.

- On 2 October 1918, twelve U.S. Navy submarine chasers participated in a surface action and bombardment off Durazzo, Albania, the only surface action of the war in which U.S. vessels were engaged. During the battle, the U.S. sub chasers were part of a combined Italian, British, and Australian force. The U.S. vessels engaged two Austro-Hungarian destroyers, a torpedo boat, and damaged two submarines. Despite heavy enemy fire, damage to U.S. vessels was minimal, although the press played it up as a "suicide mission" against overwhelming opposition. Nevertheless, the U.S. submarine chasers acquitted themselves well in the first U.S. Navy surface battle since the Spanish-American War.



Fourteen-inch naval railway gun in France, circa October 1918, with gun at high elevation (NH 2424).

For more on the above events, please see attachment H-021-3.



*The Italian battleship Roma, shown shortly after her completion in 1942 (NH 47561).*

## H021-1: Fritz X—The Dawn of Precision-Guided Warfare

*H-Gram 021, Attachment 1  
Samuel J. Cox, Director NHHC  
September 2018*

By the late summer of 1943, the Germans had developed and deployed two types of guided bombs, both of which used the same radio-control system. The first was the rocket-boosted Henschel Hs-293 bomb, intended for use against small or unarmored ships. The second went by several designators, but was commonly known by both the Germans and the Allies as the "Fritz X." The *Fritz X* was a penetration weapon designed for use against

armored ships. Generally carried by the new Dornier Do 217K-2 twin-engine bomber, the *Fritz X* weighed over 3,000 pounds and had a 710-pound warhead. It could be dropped from an altitude just above 18,000 feet at up to three miles from the target, had aerodynamic enhancements for it to achieve speeds up to 767 miles per hour, and could penetrate over 5 inches of armor plate. The operator had to keep both the target and the bomb in sight for the entire flight, and the bomb had flares (for day) and lights (for night) in the fins to aid the operator in tracking and guiding the bomb. A key weakness was that the bomber had to remain straight and level for the duration of the bomb's flight, so the best defense was fighter aircraft, although the Allies quickly learned that making smoke worked very well too.

The Germans first used the guided weapons in strikes on ports in Sicily in July 1943 after the Allies occupied the island—initially without much success—although for a time the Allies remained ignorant that the weapons were being guided. However, by the time of the Salerno landings in September, Allied intelligence was aware the weapons existed, and Allied scientists were working feverishly to develop radio jammers to disrupt the guidance system. The jammers, however, were not ready in time for the Salerno landings, although they were deployed by the end of September 1943. Initially, the jammers did not work, because they were not jamming the correct frequency, although this was quickly corrected. The Germans quickly took steps to defeat the jammers, and the Allies countered, setting in motion the see-saw battle between electronic counter-measures (ECM) and electronic counter-counter-measures (ECCM) that continues to this day.

The first real success of the *Fritz X* occurred on 9 September 1943, the same day as the Salerno landings, against the Italian navy. After the overthrow and arrest of Italian dictator Benito Mussolini two months earlier, the Italian government had entered into secret negotiations with the Allies to switch sides. The Germans fully expected that their untrustworthy allies would do exactly that, and had plans in place (Operation *Achse*—“Axis”) to occupy all of Italy immediately and disarm the Italian Army, with German troops that were already in Italy at Mussolini’s previous invitation. On 8 September 1943, the Supreme Allied Command in Europe announced that an armistice had been reached with Italy. The Italian government and military high command immediately fled Rome, leaving no one in charge, and the

Germans immediately executed their plan. The Italian Army mounted no real resistance to the German takeover.

As of the morning of 8 September (before the armistice announcement), the Italian navy, based at La Spezia in northern Italy on the Ligurian Sea, was under orders to sortie to oppose the Allied landings that were anticipated at Salerno (so much for surprise). Only a few senior Italian navy commanders knew that the real purpose was to “defect” to the Allied side by sailing to Allied-held ports in Tunisia and Malta. Late on the 8th, the force of three battleships (*Roma*, *Vittorio Veneto*, and *Italia*), six cruisers, and eight destroyers sortied from La Spezia and Genoa, rendezvoused, and began a transit down the west coast of Corsica toward Sardinia and Tunisia. By dawn, the Germans had caught on to what the Italian fleet was up to and attacked. The initial German flights played cat and mouse with the Italian ships trying to get the right set-up for the glide-bomb attacks. At first, the Italians did not fire on the German aircraft (which maintained unusual distance and altitude), thinking they were Allied air cover (which had been promised but never showed).

When the concerted German attack by six bombers came later in the afternoon, it was devastating. The first bomb was a near-miss on the battleship *Italia* (formerly *Littorio*) that caused significant damage and jammed her rudder. The Italian AA opened fire, but the bombers were too high. The Italians struggled to understand the nature of the attack, since the bombers were not operating in a way any had seen before.

At about 1545, a *Fritz X* hit *Roma*, the largest ship in the Italian navy (45,000 tons, nine 15-

inch guns) and the flagship of the fleet commander, Vice Admiral Carlo Bergamini (onboard with about 200 of his staff). The bomb hit *Roma's* starboard side just aft of amidships, penetrating clean through the ship and detonating under her keel, flooding boiler rooms and her after engine room, knocking out two of her four propeller shafts, reducing her speed, and starting numerous electrical fires. Seven minutes later, a second *Fritz X* hit the battleship, detonating in her forward engine room and sparking a massive blast from a forward magazine that killed Bergamini, the ship's captain, and a large number of her crew. The force of the blast blew the number two turret (three 15-inch guns) into the air and over the side. By 1615, *Roma* had capsized, broken in two, and gone down with massive loss of life: 1,393 sailors (many accounts do not account for Bergamini's staff and thus give a lower figure). Nevertheless, *Italia* and much of the Italian navy successfully made it into Allied control. Bergamini was posthumously promoted to full admiral. All told, some 49 Italian combatants were destroyed by air attack, shore batteries, or were seized by the Germans—or were scuttled or sabotaged—during the period when Italy switched sides.

After the armistice, the Allies interred the Italian battleships in Egypt. Some Italian light cruisers, destroyers, and submarines did join the fight alongside the Allies against Germany, although a few Italian torpedo boats in northern Italian ports continued to fight alongside the Germans. Several Italian submarines that had been in the Far East when the armistice occurred were taken over by the Germans, and, operating from Japanese ports with mixed Italian and German crews, continued to fight. One of the Italian submarines even shot down a U.S. B-25

bomber in Japanese waters on 30 August 1945, after Japan had agreed to surrender on 15 August.

(Sources include; *History of U.S. Navy Operations in World War II, Vol. IX: Sicily-Salerno-Anzio, January 1943-June 1944* by Rear Admiral Samuel Eliot Morison; *History of the U.S. Navy, Vol. II: 1942-1991* by Robert W. Love, Jr.; *Sea Power* by E. B. Potter; NHC report "The U.S. Navy and the Landings at Salerno, Italy, 3-17 September 1943"; and NHC *Dictionary of American Fighting Ships*-DANFS-entries for various ships involved.)



*Sunrise off Sicily, as seen from a U.S. Navy attack transport. Taken on the morning of the invasion, 10 July 1943. Note the already-empty davits (80-G-K-2143).*

## **H-021-2: Operation Husky, the Invasion of Sicily, and Operation Avalanche, the Invasion of Italy**

*H-Gram 021, Attachment 2*

*Samuel J. Cox, Director NHHC*

*September 2018*

The hastily planned Allied invasion of mainland Italy at Salerno (Operation Avalanche) commencing on 9 September 1943 nearly ended in disaster. The effects of naval gunfire support were a significant factor, if not the major factor, in preventing the Germans from defeating the

landings (actually, bad decisions by Adolf Hitler in holding back resources from the overall German commander in southern Italy, Field Marshal Kesselring, were probably the primary factor). The Allied plan relied heavily on surprise, which the U.S. naval commander, Vice Admiral H. Kent Hewitt, argued would not be achieved. Hewitt reasoned that because Salerno was the closest beach near the key port of Naples that was still within range of land-based Allied fighter cover, the Germans would have no problem predicting where the landings would come. As it turned out, Kesselring was unwittingly in complete agreement with Hewitt's analysis. The Allies would find the sea approaches to Salerno heavily mined, and a crack *Panzer* division itching for a fight on the beach (and more divisions in support, although not enough as it turned out). In order to preserve the (non-existent) element of surprise, the senior Allied ground commanders decided on a night

landing, with no pre-landing naval bombardment, over the objection of Admiral Hewitt. Instead of meeting Italian troops eager to surrender, the initial wave of Allied troops was met by German loudspeakers inviting the Allied troops to come in and surrender, because the Germans had them covered. The Allies came in anyway, but not to surrender, and a brutal and bloody fight commenced.

In my previous H-gram (H-020), I ran out of gas in discussion of the Allied invasion of Sicily (Operation Husky), so I will backtrack some because Husky is important to the understanding of Avalanche. Although the purpose of H-grams is to focus on U.S. naval operations, a little bit of the development of Allied strategy in the European Theater is necessary. After the success of the Operation Torch landings in Morocco and Algeria in November 1942, and the British victory over Rommel's *Afrika-Korps* at the Battle of El Alamein in Egypt—also in November 1942—the Allies quickly forced the Germans back into Tunisia, and, with a few setbacks (Battle of Kasserine Pass), defeated German forces in North Africa, in large part because Allied control of the sea lanes (although contested) strangled the Germans of supplies.

As it became apparent that the Germans in North Africa would be defeated by mid-1943, the Allies had to decide what to do next. There was agreement between the U.S. and the British on the overall “defeat Germany first” grand strategy for the war, but after that things could become pretty contentious. Generally, “Allied” strategy meant the Americans and British agreeing on something, and everyone else (Free French, Free Poles, even the Russians) would be told about it later, to the frequent consternation of the French and the Russians. Although today there is the view that the U.S.-British alliance during World War II was one of the most successful and harmonious in history, only the successful part is completely true. Many of the high-level strategy meetings between the U.S. and British senior military leaders were knock-down, drag-out food fights.

To grossly oversimplify the differing viewpoints, the British were convinced that the Americans were fixated on diving headlong into a bloodbath in northern France à la World War I before the Allies were really ready. The American view was that the British (still shell-shocked by their Great War experience) just wanted to beat around the bush in places like Italy and Greece, and that ideas by Prime Minister Winston Churchill to invade places like the Dodecanese Islands (huh? where?) were a waste of time and resources that would be better spent going right at the Germans. Nevertheless, the British absolutely refused to budge on invading northern France any earlier than 1944—if that—but were willing to make landings in the Mediterranean. Neither CNO Admiral Ernest J. King nor U.S. Army Chief of Staff General George C. Marshall had ever been keen on landing in North Africa to begin with, but since the Army was there, they might as



Lieutenant General George S. Patton Jr. holds the Seventh Army command flag he has just received from Vice Admiral H. K. Hewitt (left), U.S. Eighth Fleet commander, on board USS *Monrovia* (APA-31), en route to Sicily, circa 7 July 1943 (NH-96739).

well do something with it, and the plan for the invasion of Sicily was the result.

There was extensive discussion amongst the U.S. and British military leadership as to where in the Mediterranean the Allies should invade next, such as Sicily, Sardinia, Crete, direct to the Italian mainland, Corfu, the Balkans (or the Dodecanese Islands). For a variety of reasons, Sicily was actually the obvious choice—the shortest distance from North Africa, air cover, etc. The fact that it was the obvious choice was the problem, which resulted in one of the most extensive operational deception campaigns in military history, to include dropping a dead body with a fake identity and fake war plans off the coast of Spain from a submarine, with the intent that the neutral but Hitler-friendly government of dictator Francisco Franco would turn the plans (for the invasion of Sardinia and Greece) over to the Germans (Operation Mincemeat, also known as *The Man Who Never Was* in the movie). As it turned out, probably the only person really fooled by Mincemeat was Hitler himself, but that was sufficient. What really surprised the Italians and the Germans was how fast the Allies were able to marshal the required amphibious vessels, supplies, air cover, and troops to execute the attack. The Italians and Germans fully expected the attack on Sicily and were taking steps to counter it, but in many cases troop and aircraft reinforcements did not get there in time.

Between the landings in North Africa in November 1942 and the invasion of Sicily in July 1943, American shipyards were cranking out as a matter of top priority hundreds of new types of amphibious vessels, such as Landing Ship, Tank (LST) Landing Craft, Infantry (LCI) Landing Craft, Mechanized and Utility (LCM/LCU) Landing Ship Medium (LSM), and numerous variations. Although world-wide demand for these kinds of vessels still greatly exceeded supply, hundreds were provided to the landings in Sicily (while U.S. operations in the Solomon Islands and New Guinea were hamstrung by the lack of such specialized amphibious vessels).

The fleet that was assembled to invade Sicily was the largest in history to that point, and included over 3,200 ships, craft, and boats, divided into two major forces: the Eastern Naval Task Force, to land the British Eighth Army on the eastern coast of Sicily (south of Sigonella) and the Western Naval Task Force, to land the U.S. Seventh Army (under the command of Lieutenant General George S. Patton) on the southeastern end of the southern coast of Sicily. The Eastern Naval Task Force was predominately British Royal Navy and the Western Naval Task Force was predominately U.S. Navy, although ships of both nations (and other allies) served in both task forces. The Western Naval Task Force (about 1,700 ships, craft, and boats) was under the command of Vice Admiral Henry Kent Hewitt, USN.

Vice Admiral Hewitt's after-action report described the battle for Sicily thus: "The amphibious assaults were uniformly successful. The only serious threat was an enemy counter-attack on D plus one day against the 1st Infantry Division when a German tank force drove across the Gela plain to within 1,000 yards of the DIME beaches. The destruction of this armored force by naval gunfire delivered by U.S. cruisers and destroyers, and the recovery of the situation through naval support, was one of the most noteworthy events of the operations. The continued employment of naval gunfire against enemy positions on the north coast during the reduction of the island phase of the campaign, the unique employment of landing craft in providing a service of food, fuel and munitions to our front line troops on the north coast contributed to a marked degree to the rapid defeat of the enemy."

Vice Admiral Hewitt's report understates some of the challenges involved. The weather was bad enough that serious consideration was given to postponing the landings, which would increase the likelihood that the Italians and Germans would be able to reinforce their defenses. Hewitt took a great risk, and opted to proceed with the landings

anyway, and got away with it. In many respects, the rough seas proved a much greater obstacle to conducting the landing than the enemy. However, the enemy was also caught by surprise, having assumed that no one would try to land in such adverse conditions. Because of the nature of the beachheads in the American sector (off-shore sand bars), the LSTs needed to use pontoon bridges to get their tanks and armored vehicles to the beach. Although the weather played serious havoc, the LSTs were eventually successful. Also, in an effort to ensure surprise, the largest amphibious assault in history was planned to be a night assault. Somewhat amazingly, the darkness was much less of an impediment than the sea state, and the initial landings in the dark were successful. The airborne drops that preceded the amphibious assault were much less successful as high winds scattered American paratroopers all over southeastern Sicily. It was worse in the British sector, where British gliders were cut loose too early by U.S. tow planes and crashed into the sea, killing 252 British troops and glider crews (some sources say 326 killed). Another effort to ensure surprise is that there was no pre-landing naval bombardment, which had been approved over Hewitt's objection. Since the Italians and Germans had been caught off-guard, lack of pre-landing bombardment didn't make much difference, although the consequences would be much more severe at the later Salerno landings.

However, the greatest weakness in the Sicily landings was that they depended on land-based air support, as there were no U.S. or British aircraft carriers to support the landing in the American sector. Both the U.S. Navy and Army would pay heavily. Hewitt's after-action report stated, "the weakest link in the joint planning of the U.S. Forces was the almost complete lack of participation by the Air Force....The Air Plan gave no specific information to the Naval and Military Commanders of what support might be expected during the assault, or what, when or where fighter cover would be provided....Thus the Naval and Military Commanders sailed for the assault with

almost no knowledge of what the air force would do in the initial assault or thereafter." Following the Battle of Kasserine Pass in Tunisia in February 1943, the U.S. Army Air Force successfully argued that a contributing factor in the defeat of U.S. forces by the Germans was partly due to the misallocation of air assets, i.e., assigning specific fighter squadrons to support specific army divisions resulted in an inefficient and ineffective use of available air power. The Air Force was right, but then for the Sicily invasion the pendulum



*The 6-inch/47-caliber guns of a Brooklyn-class light cruiser bombard enemy forces at Licata, Sicily, during the Allied landings, 10 June 1943 (80-G-54550).*

swung way too far in the other direction, with the Air Force acting as a completely independent force (still trying to prove that by strategic bombing they could win the war all by themselves).

At dawn on 10 July, the German (and some Italian) air attacks commenced. Although some German aircraft came in high, where they were detected by radar, others came ripping down the valleys in Sicily at low level, surprising, bombing, and strafing troops on the beach, landing craft at the beach, and ships off shore. Within the first couple of hours, three of the light cruiser USS *Savannah's* (CL-42) four observation/scout planes were shot down by German fighters. In one case, the radioman/observer was able to ditch the aircraft at sea successfully after the pilot had been

killed in flight. By the second day, *Savannah* had lost all four of her planes.

The U.S. Navy suffered its most significant loss during Operation Husky on the first day of the invasion when German aircraft launched a counter-attack. The destroyer USS *Maddox* (DD-622) was located about 16 nautical miles off the coast, guarding the invasion force from submarine attack, when a lone German Ju-88 twin-engine bomber slipped through without being engaged by Allied fighters and attacked the ship (some accounts say the aircraft was a "Stuka" dive bomber or "Italian Stuka"). At least one, possibly two, 250-pound bombs were direct hits and the other one (or two) was a damaging near-miss. One of the bombs detonated in the after magazine, causing a massive explosion. The ship sank in less than two minutes with the loss of 210 of her crew, including the commanding officer, Lieutenant Commander Eugene S. Sarsfield, who received a posthumous Navy Cross for his heroic actions in supervising the abandonment, which was credited with saving 74 (nine officers and 65 enlisted personnel) of his crew at the cost of his own life. This was the largest loss of life on a U.S. Navy warship in the Atlantic/European Theater during World War II.

*Maddox* had previously been commended by Secretary of the Navy Frank Knox for her actions when the destroyer USS *Kearny* (DD-432) was torpedoed and damaged by a German U-boat off Iceland during the undeclared war between the U.S. Navy and German submarine force in October 1941. Later, after war was declared, *Maddox* probably sank a German submarine while escorting a trans-Atlantic convoy. The *Gearing*-class destroyer *DD-837* was named in honor of Sarsfield, but was completed too late to participate in World War II combat, although she did earn one battle star in Vietnam before being transferred to the Republic of China (Taiwan) as ROCS *Te Yang* in 1977. She is now a museum ship in Taiwan.

The *Allen M. Sumner*-class DD-731 would also be named *Maddox* and would survive a kamikaze hit off Okinawa in 1945. On 2 August 1964, she would engage and damage three North Vietnamese P-4 torpedo boats (with the assistance of strafing by U.S. Navy F-8 Crusader fighters), when she was attacked while conducting a DESOTO signals intelligence (SIGINT) patrol in the Gulf of Tonkin off the coast of North Vietnam. *Maddox* and one of the F-8s suffered minor damage. Two days later, on 4 August 1964, *Maddox* and the destroyer USS *Turner Joy* (DD-951) engaged what were probably phantom radar contacts off the coast of Vietnam. The two events were frequently conflated into the "Gulf of Tonkin Incident," which led the U.S. Congress to pass the Gulf of Tonkin Resolution, giving President Lyndon Johnson authority to greatly escalate the Vietnam War. There are still many who believe the Gulf of Tonkin Incident to have been a trumped-up (or even phony) event to justify greater U.S. involvement in the Vietnam War. The reality is that the first incident on 2 August was definitely real, and the second one, on 4 August, almost certainly not. Like the *Sarsfield*, *Maddox* would end her career serving in the Taiwanese navy before being scrapped.

Back to Sicily...

Allied aircraft first showed up 15 minutes after *Maddox* exploded and sank. By the end of the first day, and despite occasional Allied fighter cover, German aircraft sank the minesweeper USS *Sentinel* (AM-115) and damaged other ships. *Sentinel* put up an incredible fight during repeated air attacks, despite serious damage in the earliest attacks, hitting at least two German aircraft and driving off others before finally succumbing to additional bomb hits, her after 3-inch gun driving off a sixth attack even as the vessel was sinking. Other ships were damaged or suffered near-misses throughout the day.

Just before nightfall, a single German Bf-109 got through and struck *LST-313*, which was heavily

loaded with fully fueled vehicles and ammunition. Most of those aboard were able to escape via the pontoon bridge before the LST was destroyed by the explosions. Heroic shiphandling by *LST-311* saved about 40 men trapped on the stern of the flaming ship. The skipper of *LST-311*, Lieutenant Commander Robert L. Coleman, USNR, would be awarded the Navy Cross for his valor. Beach operations in the vicinity of *LST-313* had to be halted due to a continuing shower of shrapnel from explosions aboard the ship.

On 11 July, German bombers hit the liberty ship *SS Robert Rowan* with over 400 troops and Navy crewmen on board, along with several thousand tons of ammunition, and set her on fire. The "abandon ship" order was immediately given, and nearby ships, at extraordinary risk, saved everyone on board before the ship blew up in one of the largest explosions ever recorded, showering the whole area with debris, and her smoldering wreck serving to aid follow-on night attacks by German aircraft.

Over the course of the campaign, *LST-158*, *LST-318*, an LCI and two LCT's would be lost to bombs. Other ships would be damaged by bombs, mines and shore fire. Ninety-two landing craft (LCVP) would be lost. The U.S. Navy would lose 546 (killed or missing) compared to the U.S. Army's 2,273 (killed or missing) in the Sicily campaign—mostly as a result of inadequate air cover.

Throughout the first several days, naval gunfire support from the light cruisers *USS Boise* (CL-47), *USS Savannah* (CL-42), and other destroyers proved exceptionally effective, until U.S. Army forces advanced out of range. In particular, the most determined German armored counterattack, on 11 July, which came dangerously close to getting through to the beachhead at Gela, was broken up primarily by gunfire from *Savannah*, which repelled several German attempts to re-group and re-attack, and destroyed or damaged many German tanks. *Savannah's* sick bay also

served as a hospital to numerous U.S. Army wounded. *Savannah's* actions earned her the nickname the "[U.S. Army] Rangers' favorite ship." Although U.S. ships had shelled Japanese positions on islands in the Pacific, this was the first time U.S. Navy warships conducted direct fire support in an actual land battle, using coordination procedures that had been carefully rehearsed between the U.S. Navy and U.S. Army in preparation for the landing; there was nothing ad hoc about it.

Those who have seen the movie *Patton* will recall Patton being irate that British General Sir Bernard Montgomery had been given the "easy" route up the east coast of Sicily toward Messina, while U.S. troops had to slog through the mountains guarding Montgomery's western flank. Patton then got frustrated and led his forces on a much longer "end around" via the western and northern coast of Sicily, and still got to Messina faster than Montgomery. It was basically true, although the scene of Monty triumphantly entering Messina only to find Patton and the band already waiting for him was "Hollywood." Patton's "end around" was significantly aided by a series of smaller amphibious operations, naval gunfire support, and timely supply of Patton's rapidly advancing force by U.S. Navy landing craft.

Although the landings on Sicily were successful, they were marred by what is considered by many to be the worst "friendly fire" incident in U.S. military history—although several sinkings of Japanese "hell ships" full of Allied POWs by U.S. and Allied submarines may also claim that dubious distinction. On the night of 11 July, U.S. Navy ships and U.S. Army shore batteries downed 23 of 144 U.S. C-47/C-53 transport aircraft and damaged 37 more; 81 U.S. paratroopers were killed, including Brigadier General Charles Keerans, and 60 aircrew. In addition, 200 more were wounded. These numbers vary significantly from source to source—23 aircraft shot down and 318 killed or wounded appear to be the most reliable numbers. Vice Admiral Hewitt's after-

action report includes Lesson Learned No. 42, "Air plans involving the transport of paratroopers should be submitted to the Naval Commander for approval," which somewhat blandly masked the scope of tragedy. Morison's account describes a scene where visibility was limited by the pall of smoke from the still-burning SS *Robert Rowan*, whose flames were used as a beacon by two heavy German air raids between 2150 and 2300 that night, when the flight of transport planes flew in at low altitude (400-700 feet, depending on the account) at the same time German dive bombers were attacking U.S. ships offshore.

Samuel Eliot Morison's account states that Army batteries ashore opened fire first and the transport aircraft came out over water to avoid them, whereupon U.S. ships opened fire; not all



*USS Charles Carroll (APA-28) is silhouetted against the glow of a burning ship off the Salerno invasion beaches on "D-Day," 9 September 1943. Photo probably taken from USS Ancon (AGC-4) (80-G-87394).*

accounts agree as to who fired first. But the result was a horror of sitting-duck transport planes being shot out of the sky by intense anti-aircraft fire from both ship and shore, with many aircraft crashing in the sea. General Patton was reportedly aghast watching the carnage, while the commander of the 82nd Airborne Division, Major General Matthew Ridgway, who came by ship, was in tears, having previously deemed the drop to be unnecessary, but having been unable to communicate a cancellation in time. Hewitt's after-

action report states, "This failure by the Air Force to correlate plans, and acquire the timely concurrence of the other services in order that information could be disseminated to all forces contributed to a regrettable incident. On the night of the assault a number of the transport planes were off the prescribed route and approached the transports from the same direction as the enemy and arrived over the ships simultaneously with enemy dive-bombers. One is brought to the conviction that that had the Air Force joined the naval and ground force planners, as they had been so often urged to do, and thereby had brought all Air Plans into harmony with the other services, the unfortunate loss of our transport aircraft might have been avoided."

### ***Operation Avalanche: The Invasion of Italy, 9 September 1943***

As the Allied forces continued to advance in Sicily, Italian dictator Benito Mussolini was ousted in a coup and arrested on 25 July, as other Italian senior leaders (and most of the population of Italy) became disillusioned by what seemed like a never-ending string of defeats for the Italians. Mussolini was replaced by Marshal Pietro Badoglio (the "conqueror of Ethiopia" in 1936), who publically voiced support for continuing to fight as an ally to Nazi Germany, while secretly opening discussions with the Allies for an armistice. Badoglio was trying to avoid the humiliation of an "unconditional surrender" (which was the Allies' stated war aim) and instead to switch sides and join the Allies. At the time the United States and Britain had agreed to invade Sicily, the Americans had not committed to an invasion of Italy. However, the prospect that Italy could be quickly knocked out of the war represented an unexpected opportunity. The British pushed hard for the invasion, believing that if Italy switched sides, then that would take enormous pressure off the supply line through the Mediterranean between Gibraltar and Suez (and by extension to India and the Far East). The United States reluctantly agreed to go along, but remained concerned about the possibility of

getting bogged down in a campaign in Italy (which is exactly what happened). The British made a bad assumption that when Italy switched sides the Italian army would fight the Germans. Instead, the Italian army would literally dissolve, and the Germans would take over all of Italy and continue to fight, continuing to attack the vulnerable Allied supply route through the Mediterranean with their own aircraft and U-boats operating from Italian bases.

The result was a rushed plan for the invasion of Italy, with landings at Salerno. Many lessons learned from the landings in Sicily were incorporated, but the plan still had some major flaws. On the plus side, General Eisenhower put his foot down and ordered the Air Force to participate in the planning process. This time, Vice Admiral Hewitt's flagship, USS *Ancon* (AGC-4), had an effective fighter-director team embarked under the command of Brigadier General Edward House, U.S. Army Air Force, perhaps the earliest version of a "JFACC afloat," and two other ships were equipped with "joint" fighter-director teams as back-up. The British also committed one light carrier and four escort carriers to support the landings. Two additional British fleet carriers, HMS *Illustrious* and *Formidable*, were in the covering force. *Ancon* was an ocean liner that had been converted to a joint and combined forces flagship and was festooned with the latest in radar, radio, and command-and-control equipment (a lot like USS *Blue Ridge*—LCC-19—and ahead of her time). U.S. Army General Mark Clark would be aboard during the initial landings.

Salerno was chosen because it had the best beaches closest to the Italian port city of Naples (about 30 miles) but was still in range of land-based fighter cover operating from Sicily. However, the terrain favored defense, and to get to Naples, Allied forces would have to get through a chokepoint between mountain ranges. A river bisected the landing area, separating the U.S. forces and British forces, and the valley provided an avenue of approach for defenders.

The nature of the beach was such that to get enough forces ashore required a front of about 35 miles, which also gave the defense the opportunity to separate Allied units and defeat them in detail.

The overall commander of the Allied ground force was U.S. General Mark Clark, commander of the U.S. Fifth Army, with the U.S. VI Corps and the British army's X Corps for the attack, and the U.S. 82nd Airborne Division in reserve. Vice Admiral H. Kent Hewitt was in charge of all amphibious forces in *Avalanche*, while the covering forces were under Royal Navy command. Hewitt's force included a Northern Attack Force (mostly British) landing British troops, and a Southern Attack Force, under the command of Rear Admiral John L. Hall, USN, to land U.S. troops.

Like Operation Husky, Army commanders made the decision to land at night, without preparatory air strikes or naval gunfire, so as to maintain an element of surprise. Vice Admiral Hewitt again argued strongly to use naval gunfire to prepare the beachhead, stressing that with the size of the force that would converge on Salerno from the sea, and the fact that Salerno was the obvious place to land, there would be no way that the landing would achieve surprise. As it turned out, there were eight German divisions deployed to directly oppose the landing or moving to support. In particular, the 16th *Panzer* Division had arrived on the Salerno plain on 6 September and set up effective defensive positions. Some of these German forces had been successfully evacuated from Sicily across the Strait of Messina. Not all of the divisions were at full strength, but they were ready to fight. In addition, the Allies discovered (fortunately in advance) that the Gulf of Salerno had been heavily mined, which meant that the Allied troop ships would have to hold 9 to 12 miles from the beach, while minesweepers cleared paths, which necessitated very long runs by the landing craft. Fortunately, unlike Sicily, the weather cooperated and was ideal.

On 3 September, elements of the British Eighth Army crossed the Strait of Messina from Sicily onto the "toe" of the Italian "boot" as part of a deception plan called Operation Baytown. The Germans were not fooled; they were not about to give battle where they could be easily outflanked by amphibious assault and withdrew up the toe of Italy toward Salerno. A second improvised deception operation (Operation Slapstick) took place the day before the Salerno landing. The light cruiser USS *Boise* (CL-47) was pressed into service with three other British light cruisers to help lift troops of the British 1st Airborne Division and capture the Italian naval base at Taranto (many Italian navy ships based there had been repositioned to bases in the north of Italy earlier in the war). *Boise* carried 788 British troops and 60-70 jeeps (instead of her observation/spotting planes). The British battleships HMS *Howe* and HMS *King George V* joined the forces to provide cover in the event of Italian navy opposition. Two Italian battleships and three cruisers sortied from Taranto, but they surrendered. *Boise* and the other cruisers steamed into Taranto to offload their troops. For some reason, Captain Thebaud of *Boise* declined the first berth he was offered by an Italian pilot and berthed at the mole instead. HMS *Abdiel*, a fast minelayer being used as a troop transport, took *Boise's* berth instead, which turned out to have been mined. *Abdiel* struck an undetected mine several hours later and sank, with the loss of 48 crew and 101 soldiers. Other than that, the landing in Taranto was unopposed, but it did not fool the Germans.

The convoys carrying troops left from multiple North African ports beginning around 6 September. The main convoy of the Southern Attack Force, carrying U.S. troops, reflected the intermingled multi-national nature of the force, consisting of 13 U.S. transports, three British LSTs and three British LCIs, escorted by the light cruisers *Philadelphia*, *Savannah*, and *Boise* (although *Boise* was detached on short notice to join Operation Slapstick). Hewitt's flagship, *Ancon*, was escorted by one British and three U.S.

destroyers. The convoys proceeded by disparate routes, joining up in the Gulf of Salerno. Multiple attacks by significant numbers of German aircraft were surprisingly ineffective, succeeding in sinking only *LCT-624* and putting a dud bomb into *LST-375*.

The armistice with Italy was reached in secret on 3 September 1943, and was announced by the Allies (by General Eisenhower himself) at 1830 on 8 September, nine hours before the scheduled landing at Salerno, in the hope that it would eliminate any Italian resistance. That part worked, but no Italian had been entrusted with the knowledge of the impending landing, so the Italians were in no position to help either, not that it would have made much difference. The Germans immediately executed their planned take-over of Italy and quickly disarmed those Italian army forces that did not melt away. An unfortunate by-product of the announcement was that word spread among the troops in the Allied invasion force, giving them the false sense that the landings might be unopposed.

At midnight on 9 September, the operation began with scouting and minesweeping operations, and landing craft in assembly areas. Scout boats could hear, but not see, German armor moving practically to the water's edge. But, all went reasonably smoothly except for one landing craft blown up by a mine. The minesweepers would eventually clear 275 mines. The initial wave of U.S. troops arrived at the four designated beaches within seven minutes of each other at first light about 0335. Then all hell broke loose. Many U.S. troops were killed while still in the landing craft, by well-emplaced German guns. German aircraft arrived over the beach, bombing and strafing. It was the largest and most concerted German air attack against any landing in the Mediterranean. Seafire fighters from the British escort carriers were able to keep most attacks away from the amphibious craft offshore. Despite high casualties, U.S. troops pushed ashore, aided by DUKW amphibious vehicles

carrying field artillery, put ashore by the three British LSTs. On Blue Beach, four of six LCTs carrying tanks were hit by German 88-milimeter anti-tank guns. The crew of *LST-389* rigged their pontoon bridge under heavy enemy fire, but succeeded so that the embarked tanks could get ashore. The landings in the British sector were just as bloody.

At about 0510, a large bomb from an undetected aircraft exploded close aboard the ocean tug *USS Nauset* (AT-89), which had carried and offloaded a British small craft equipped with "hedgehog" projector charges intended to clear a path through any mines in the surf zone. *Nauset* caught fire and began to list. Although her crew fought valiantly to save her, fires below decks could not be extinguished. After being abandoned, the tug righted herself, and the skipper, Lieutenant Joseph Orleck, and two others went back aboard to try to save her, whereupon she exploded after probably striking a mine and went down with the skipper and one of the boarding party. Of *Nauset's* complement of 113, 18 were killed and 41 were seriously wounded. Orleck was awarded a posthumous Navy Cross, and the *Gearing*-class DD-886 was named for him (now a museum ship in Lake Charles, Louisiana).

The light cruisers *Philadelphia* and *Savannah*, four U.S. destroyers, and HMS *Abercrombie* (a monitor with twin 15-inch gun turrets) bombarded German tanks, gun positions, and troop concentrations. *Abercrombie* hit a mine and had to withdraw. Delays in getting through the minefields and establishing communications with shore fire-control parties, kept the naval gunfire on the first day from being as effective as it might have been early in the day. Nevertheless, *Savannah* fired on a concentration of German tanks and forced them to withdraw. The light cruiser had also been the first ship to open fire on the morning of 9 September, silencing a railroad artillery battery with 57 rounds. *Savannah* responded to 11 calls for fire support, expending 645 rounds of 6-inch ammunition. Unlike at Sicily,

where all her planes were shot down, this time the ship had the benefit of U.S. Army Air Force P-51 Mustang fighters flying in pairs to defend themselves from German fighters and specially trained to spot naval gunfire.

*Philadelphia* also engaged German tanks, hitting a bridge that held up a column of armored vehicles and, with the aid of her scout plane (and the scout plane from *Savannah*), flushed 35 tanks out of hiding, destroying seven of them while forcing the rest to flee. The U.S. destroyers, putting themselves at risk in minefields, were also effective in destroying German gun positions that were inflicting heavy casualties on U.S. troops. Much credit goes to the bravery of the U.S. Army troops in holding on to the beachhead, but much credit is also due to naval gunfire support. However, more German reinforcements were closing in.

On the night of 10 September, German E-boats (torpedo boats, similar to U.S. PT boats but heftier) attacked an Allied convoy of emptied transport ships as it was leaving the Gulf of Salerno. The destroyer *USS Rowan* (DD-405) engaged two of the E-boats and drove them off. However, when returning to the convoy, *Rowan* encountered a third E-boat that rapidly closed range to 2,000 yards. *Rowan* took evasive action to put her stern toward the direction of the anticipated torpedo attack, but her turn was not fast enough. She was hit in the after quarter and her magazine exploded. She sank in less than 40 seconds, taking 202 of her crew with her. Only 71 survived.

Heavy fighting continued into the second day in both U.S. and British sectors, with U.S. and Royal Navy ships answering numerous calls for fire. Two German divisions conducted major counterattacks. Gunfire from *Savannah* was significantly responsible for halting the attack of the 29th *Panzer* Division down the Sele River valley, which threatened to divide Allied forces. Multiple German attacks came close to

reaching the beaches. The same pattern continued over the next days, as more German forces poured into the area, along with more U.S. and British troops getting ashore in bitter see-saw combat. After the first day, German air attacks ashore were mostly ineffective, but the *Luftwaffe* concentrated their attacks on the things that were hurting the Germans the most: the Allied ships providing gunfire support.

During the 0900 hour on 11 September, Allied forces received warning of inbound German aircraft, but the planes remained a high altitude, over 18,000 ft. At about 0950, a large bomb exploded close aboard *Philadelphia*, wounding 15 men. Other ships began evasive action, but 10 minutes later, *Savannah* could not avoid another bomb, because it was a guided *Fritz X* (see H-021 overview and attachment H-021-1 for more). Heroic damage control saved the ship from nearly



U.S. soldiers examine the wreckage of a German Panzerkampfwagen IV tank, destroyed by Allied fire during Operation Avalanche. This may be one of the tanks knocked out by naval gunfire support during the battle for the beachhead (NH-95563).

catastrophic damage that killed 197 of her crew and seriously wounded 15 more. Four sailors who were trapped in a forward compartment could not be rescued for 60 hours until the ship arrived in Malta under her own power. I could find no record that the skipper of *Savannah*, Captain Robert Webster Carey, USN, was awarded a medal for valor in saving his ship, and my presumption is that one of his five Legion of Merits covered it. Carey was one of the most

decorated officers in the Navy, having been awarded a Medal of Honor shortly out of the academy for his actions during a boiler explosion (actually five boilers exploded) in 1915 aboard the armored cruiser USS *San Diego* (ACR-6) indirectly saving the lives of three men while dragging them to safety and for putting out the fires in the adjacent boiler room, thus preventing the boilers from exploding and inflicting even more damage. *San Diego* would later be the largest U.S. Navy warship lost in World War I, after Carey detached. During that conflict, Carey was awarded a Navy Cross while aboard the destroyer USS *Sampson* (DD-63) for his actions in securing a live depth charge that had come loose and was rolling about the deck in heavy seas. Carey retired in 1945 as a rear admiral.

German counter-attacks increased in intensity on 13-14 September, and General Mark Clark was seriously considering evacuating the southern (American) beaches and concentrating troops on the northern sector. Clark, who was now ashore, sent an urgent request to Hewitt to prepare to evacuate the U.S. VI Corps from the beaches and re-locate them to the beaches north of the Sele River. *Boise*, having arrived after her participation in Operation Slapstick, was instrumental in blunting one of the more serious German attacks. Meanwhile, *Luftwaffe* attacks with *Fritz X* guided glide bombs continued. *Philadelphia* narrowly avoided being hit by two *Fritz X*, one within 100 yards and one within 100 feet. At 1440, the British light cruiser HMS *Uganda* was conducting close fire support missions when she suffered a direct hit from a *Fritz X* dropped from a plane that was never seen. The bomb penetrated through seven decks, out the bottom, and exploded under the keel, snuffing out all the boilers and killing 16 men. A U.S. tug was able to tow *Uganda* to safety, but she was out of action for many months. Other British destroyers suffered near-misses from guided bombs. Two British hospital ships were also attacked by guided bombs, with several near-misses, and one hit HMHS *Newfoundland*, killing all of the medical officers and six nurses. The two

hospital ships had previously been carrying 105 U.S. nurses, who had already gone ashore. *Newfoundland* had to be towed to sea and scuttled.

Intense German counter-attacks continued on 14 September on land, as did guided-bomb attacks at sea. *Philadelphia* and *Boise* continued to provide fire support. Two transports, *SS Bushrod* and *SS James W. Marshall*, appeared to have been hit by guided bombs, probably the smaller rocket-assisted version. *Bushrod* was a total loss after her cargo of gasoline went up, while *James W. Marshall* suffered heavy casualties among her merchant marine crew. *Marshall* would end up being deliberately scuttled and used as part of a "Mulberry" artificial harbor during the Normandy landings.

Due to the desperate situation ashore, the British brought the battleships HMS *Warspite* and HMS *Valiant* in close. On 16 September, *Warspite* suffered a direct hit and a near miss from two *Fritz X* glide bombs. The first bomb penetrated six decks, detonated in the No. 4 boiler room, and put out all boiler fires, leaving her dead in the water. Over 5,000 tons of water flooded into the ship, but her crew was able to take action to save her and she was towed to Malta. *Warspite* was never completely repaired, but she was able to participate in Operation Overlord, the invasion of Normandy in June 1944. By 16 September, however, Allied fighters had become better at intercepting and driving off the high-altitude attacks—or in disrupting them during the vulnerable period where the bomber had to remain straight and level. The Allies also learned that making smoke was a reasonably effective means to disrupt the attacks since the bomb operator would lose sight of the target while the bomb was in flight. Radio jammers would first become available later in September.

A report by a senior German commander (General Vietinghoff) stated, "The attack this

morning pushed on to stiffened resistance; but above all the advancing troops had to endure the most severe fire that had hitherto been experienced; the naval gunfire from at least 16 to 18 battleships, cruisers and large destroyers lying in the roadstead. With astonishing precision and freedom of maneuver, these ships shot at every recognized target with very overwhelming effect." Obviously naval gunfire earned the Germans' respect.

In the end, had the Germans committed more divisions from northern Italy they might have won at Salerno, as there were times when German forces in the landing area outnumbered the Allies, and almost twice as many Allied troops were killed as German. Nevertheless, Hitler refused to commit the additional troops and, between 15 and 17 September, the Allied forces ashore slowly gained the upper hand. On 16 September, Field Marshal Kesselring, commander of German forces in southern Italy, gave orders to conduct a fighting withdrawal. *Philadelphia* was narrowly missed by more glide bombs as she supported the Allied advance. Naples would fall on 1 October (after the Germans conducted extensive sabotage and destruction of the port facilities, water distribution, and civilian food supplies), which would be just one more event in what would turn into a long and bloody campaign.

The German navy got in another blow during the Salerno operation when the submarine *U-616* torpedoed and sank the destroyer USS *Buck* (DD-420) south of Capri in the Gulf of Salerno just after midnight on 9 October 1943. *Buck* apparently detected the U-boat by radar and commenced an attack run to lay a depth charge pattern, when *Oberleutnant zur See* Siegfried Koitschka fired an acoustic-homing torpedo from his stern tube. (Some sources do not credit *U-616* with firing an acoustic torpedo). The torpedo struck *Buck's* starboard bow, followed almost immediately by a massive explosion that blew off the bow and killed almost everyone in the forward section of the ship and on the bridge, including the commanding

officer, Lieutenant Commander Millard J. Klein. As the aft section of the ship rolled on its side, and the stern rose toward vertical, crewmen desperately tried to set the depth charges on safe, but were only partially successful. The ship sank in less than four minutes, and soon thereafter the starboard depth charges detonated, killing and wounding many more sailors in the water. There had been no time to send a distress call, so it was many hours before rescue came during daylight. Of *Buck's* crew, 168 were killed and 95 survived.

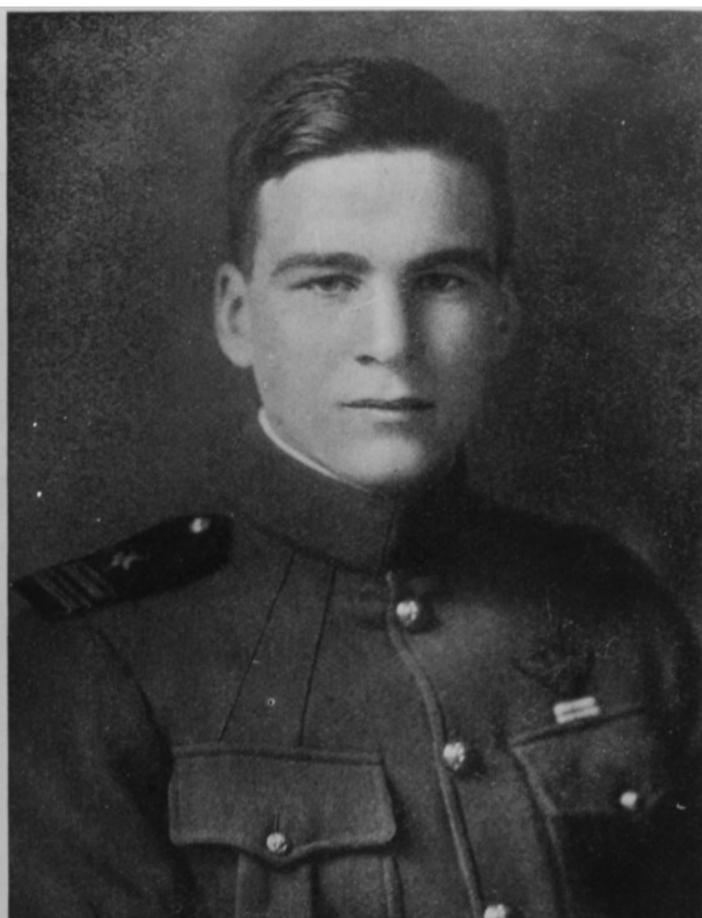
After the sinking, Lieutenant Commander Klein would be awarded a posthumous Navy Cross for a previous engagement on 3 August 1943, when *Buck* was escorting six Liberty ship transports from Sicily to Algeria, when she depth-charged and forced the Italian submarine *Argento* (then still on the Germans' side) to the surface and sank her with gunfire. *Buck* rescued 45 of *Argento's* 49 crewmen. *Buck* had also previously survived a serious collision at sea with a New Zealand troop transport in the fog off Nova Scotia on 22 August 1942. *Buck's* keel had been broken, fantail severed, and seven men lost, but her crew saved her. However, the destroyer USS *Ingraham* (DD-444), coming to *Buck's* aid, collided with the oiler USS *Chemung* (AO-30) and sank. *Ingraham's* depth charges exploded; only 11 of *Ingraham's* crew of 208 survived. The *Allen M. Sumner*-class destroyer (DD-761) was subsequently named *Buck*, but was completed too late to see combat in World War II, although she earned six battle stars during the Korean War before eventually being transferred to the Brazilian navy. World War II ended before any ship was named for Lieutenant Commander Klein.

And finally, on 13 October, the German submarine *U-371* attacked a convoy returning from Salerno to Oran near the coast of eastern Algeria. The destroyer USS *Bristol* (DD-453) detected the submarine, but was hit ten seconds later by a torpedo, which broke the back of the ship and she quickly sank. Torpedoman's Mate

Third Class Patrick J. Phillips was able to set the depth charges to "safe" before the ship went under, and the ship's executive officer was credited with conducting an orderly abandon ship which saved many lives (the commanding officer had been seriously wounded by the explosion). Five officers and 47 enlisted men were lost out of her crew of 293.

Including *Buck* and *Bristol*, Vice Admiral Hewitt's initial casualty report listed 296 U.S. Navy sailors killed, 551 missing, and 422 wounded during Operation Avalanche. Almost all of those listed as missing were subsequently declared dead, so over 800 U.S. Navy sailors were killed during the operation, making the invasion of Salerno one of the most costly battles in U.S. Navy history. Three destroyers, *Rowan*, *Buck*, and *Bristol* were lost, and the light cruiser *Savannah* was severely damaged, but saved. The invasion, however, was a success.

(Sources include: *History of U.S. Navy Operations in World War II, Vol. IX, Sicily-Salerno-Anzio, January 1943-June 1944* by Rear Admiral Samuel Eliot Morison; *Action Report, Western Naval Task Force, The Sicilian Campaign, Operation "Husky," July-August 1943,*" signed by Vice Admiral H.K. Hewitt, USN, Naval Commander, Western Task Force; *History of the U.S. Navy, Vol. Two 1942-1991* by Robert W. Love, Jr.; *Sea Power* by E.B. Potter; NHC report, "The U.S. Navy and the Landings at Salerno, Italy, 3-17 September 1943"; and NHC *Dictionary of American Fighting Ships*—DANFS—entries for various ships involved.)



Left: Ensign Charles H. Hammann, USNRF; right: Lieutenant David S. Ingalls, USNRF (NH 49249).

## H-021-3: U.S. Navy in World War I — First Naval Aviation Medal of Honor, First Ace, Railway Artillery, Heaviest Loss, and Only Surface Action, August–October 1918

*H-Gram 021, Attachment 3*

*Samuel J. Cox, Director NHHC*

*September 2018*

### ***First Naval Aviation Medal of Honor***

Enlisted Pilot Charles Hazeltine Hammann, U.S. Naval Reserve Force (Naval Aviator No. 1494), became the first U.S. aviator—of any service—to receive the Medal of Honor for his actions on 21 August 1918 off the Austro-Hungarian coast (now

Croatia) where he rescued downed naval aviator Ensign George M. Ludlow (Naval Aviator No. 342). The U.S. Army had two aviators who were Medal of Honor recipients during the conflict: Captain Eddie Rickenbacker for his actions on 25 September 1918 and First Lieutenant Frank Luke Jr. (posthumously) for his actions on 29 September 1918. U.S. Marine Corps pilot Second Lieutenant Ralph Talbot received the nation's highest honor for actions on 8 October and 14 October 1918, but would be killed in a crash before receiving it.

At the invitation of the Italian government, which was on the Allied side during World War I, the U.S. Navy established a naval air station co-located with an Italian seaplane base at Porto Corsini, about 50 miles from Venice. On the night of 24 July 1918, planes of the Austro-Hungarian Empire (Germany's ally) bombed the station, fortunately with little damage. Nevertheless, the

U.S. base became operational, and was the only U.S. naval air station on the Adriatic. On 21 August 1918, five U.S. Navy Macchi M.5 seaplanes—a small single-seat seaplane fighter built by the Italians—flew their first combat mission, escorting two Italian M.8 seaplane bombers on a leaflet-dropping mission over the heavily defended Austro-Hungarian port and naval base of Pola. Five land-based Austro-Hungarian Albatross fighters and two seaplanes engaged the escorting U.S. aircraft.

During the dogfight near Pola, the M.5 flown by Ensign George Ludlow was hit and so badly damaged that Ludlow had to set down in the Adriatic about three miles off the coast of Pola, where he risked being captured (the Austrians had threatened to execute any downed aviators flying missions over their territory). As Ludlow took steps to scuttle his aircraft, Enlisted Pilot Charles Hammann landed his seaplane on the water alongside Ludlow. Although Hammann's seaplane had also been damaged in the dogfight and had not been designed to carry the weight of two people, Hammann brought Ludlow on board as Ludlow's aircraft sank. Barely able to get the plane airborne, Hammann nevertheless succeeded in doing so while avoiding additional Austro-Hungarian search planes. He made his way back to Porto Corsini, where his plane sank after landing due to the excessive weight. Hammann would receive the Medal of Honor for his actions along with an Italian Medaglia a'Argento al Valore Militare. Ludlow was awarded the Navy Cross. Hammann would also be commissioned an ensign in October 1918, but would unfortunately be killed in a crash of an M.5 at Langley, Virginia, on 14 June 1919. On 15 September 1918, Ensign Louis J. Bergen, USNRF, and Gunner Thomas L. Murphy, USN, were killed in an accidental crash of an M.8 at Porto Corsini.

The destroyer USS *Hammann* (DD-412) would be named in honor of Charles Hammann, and would be sunk by the Japanese submarine *I-168* while rendering assistance to the stricken

carrier USS *Yorktown* (CV-5) on 6 June 1942 following the Battle of Midway, with the loss of more than 80 of *Hammann's* crew. A subsequent *Edsall*-class destroyer escort (DE-131) would be named after Hammann and serve at the end of World War II.

Ensign Hammann's Medal of Honor citation reads:

*"For extraordinary heroism as a pilot of a seaplane on 21 Aug 1918, when with three other planes Ens. Hammann took part in a patrol and attacked a superior force of enemy land planes. In the course of the engagement which followed the plane of Ens. George M. Ludlow was shot down and fell in the water 5 nm. off Pola. Ens Hamman immediately dived down and landed on the water close alongside the disabled machine and took Ludlow on board. Although his machine was not designed for the double load to which it was subjected, and although there was danger of attack by Austrian planes, he made his way to Porto Corsini."*

### **First U.S. Navy Ace**

On 24 September 1918, Lieutenant David Stinton Ingalls, U.S. Naval Reserve Force (Naval Aviator No. 85), shot down six German aircraft in six weeks, becoming the U.S. Navy's first ace—and only ace of World War I—on 20 September when he shot down a German Fokker D.VIII fighter. Flying a Sopwith Camel, and assigned to Royal Air Force No. 213 Squadron, Ingalls sighted a two-seat German Rumpler reconnaissance aircraft over Nieuport, Belgium, and, in conjunction with another Sopwith Camel, shot it down. Ingalls would be awarded the Distinguished Service Medal—at that time a higher award than a Navy Cross—a British Distinguished Flying Cross, and a French Legion of Honor. Ingalls would shoot down a total of five German aircraft and a balloon during the war. (Although an observation balloon itself was an easy target, German balloons were invariably heavily defended by ground anti-aircraft fire and were actually very dangerous targets, which made U.S. Army Air Corps pilot

Frank Luke Jr.'s downing of four balloons in one day, at the cost of his life, worthy of the Medal of Honor.)

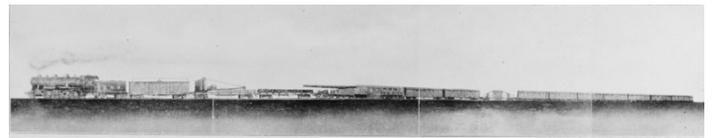
Ingalls entered Yale University in 1916, learning to fly as part of the civilian 1st Yale Unit, which transitioned into the U.S. Naval Reserve Flying Corps. Ingalls enlisted on 26 March 1917—just before the outbreak of war—and was promoted to lieutenant junior grade upon completion of initial training in September 1917. He was ordered to Europe in September 1917 and trained with both the British in fighters and French air force in bombers before winding up flying Sopwith Camel fighters. Royal Air Force No. 213 Squadron, which flew from Dunkirk, France, escorted bombers attacking German submarine bases on the coast of Belgium at Bruges, Zeebrugge, and Ostend. The intensity of air combat on the Western Front was such that in one ten-day period in May 1918 the Royal Air Force lost 478 aircraft; the average life expectancy of a pilot was measured in days. Just to survive was a major accomplishment.

On 11 August 1918, after a long scoreless period, Ingalls and his British flight leader downed a German Albatross fighter flying an observation mission over the port of Dixmunde, Belgium. Two nights later, Ingalls participated in a nighttime bombing and strafing mission on the airfield near Zeebrugge, during which 38 German aircraft were destroyed on the ground. On 21 August 1918, Ingalls shot down a German LVG two-seat reconnaissance aircraft, sharing credit with another Camel pilot. On 15 September, Ingalls participated in another bombing and strafing mission of a German airfield, during which his bombs destroyed several parked aircraft. While returning to base, he and another Camel pilot downed a Rumpler reconnaissance aircraft. On 18 September, Ingalls and two other pilots downed a German observation balloon. On the 20 September, Ingalls lost his engine and nearly crash-landed in a field behind enemy lines, but his engine restarted at the last moment. While returning to base, Ingalls surprised a Fokker D.VIII

fighter from behind and shot it down, his only solo kill. On 26 September, he shared credit for downing his sixth aircraft (counting the balloon). Although Ingalls is considered an ace, all his kills but one were shared credit, usually with other British aces.

Ingalls was released from Navy service in January 1919, going on to a career in law, journalism, politics, and government, including serving during the Hoover administration as the Assistant Secretary of the Navy for Air. During his tenure in this position, Ingalls tripled the number of Navy aircraft and was instrumental in establishing fully deployable carrier task forces.

(Sources: *United States Naval Aviation, 1910–2010, Vol. I: Chronology* by Mark L. Evans and Roy A. Grossnick; and *America's Sailors in the Great War: Sea, Skies, and Submarines* by Lisle A. Rose.)



*A complete naval railway battery train: one 14-inch gun and its locomotive, tender, and logistical support cars, 1918 (NH 63238).*

### ***U.S. Navy Railway Guns: A Case Study in Rapid Prototyping and Acquisition***

On 6 September 1918, the 14-inch, 50-caliber Mark IV naval rifle of Battery 2, commanded by Lieutenant Junior Grade E. D. Duckett, USN, of the U.S. naval railway gun unit opened fire on a key German railway hub in France at a range of over 20 miles. The firing marked the combat debut of a weapon that had been conceived, designed, built, and shipped in only a few months. The firing position at Compiègne was the same spot where the Germans would later sign an armistice ending the war on 11 November 1918—and where France would surrender in World War II. The five batteries—one gun each—of the naval railway unit would go on to fire 782 14-inch rounds on 25 occasions at strategic targets far

behind German lines before the war ended. In fact, Battery 4 fired her last round timed to impact seconds before the armistice cease-fire was to go into effect at 1100—possibly, the last shot to impact before the war ended.

The German's got the jump on the Allies in building rail-mobile long-range artillery that could hit targets very accurately far behind Allied lines without risking vulnerable bomber aircraft—or the even more vulnerable Zeppelin airships. During 1917, German railway guns regularly bombarded the key port of Dunkirk, France, which was critical to supplying British troops on the Western Front, among other targets. At the peak of the German's spring 1918 offensive, their largest railway gun—often erroneously referred to as “Big Bertha” (a different gun)—lobbed shells into the city of Paris.

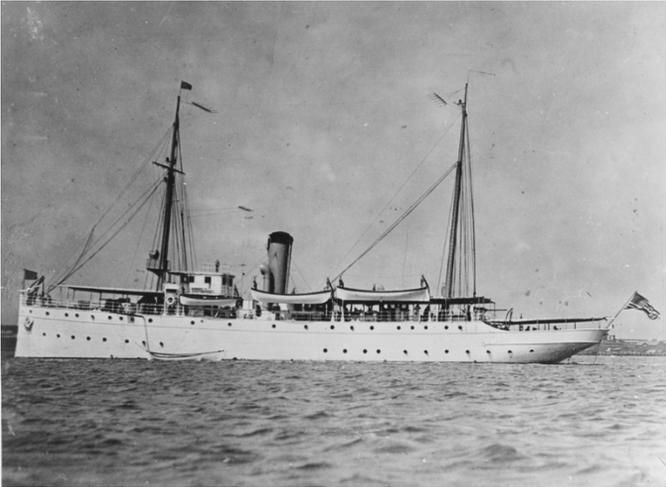
On the Allied side, the U.S. Navy was the first to develop a similar weapon system. Rear Admiral Ralph Earle, chief of the U.S. Navy Bureau of Ordnance and for whom the Naval Weapons Station Earle, New Jersey, is named, led the development of requirements for the railway guns and for the new type of mine used in the North Sea Mine Barrage. Design work on the weapon commenced at the end of December 1917 and concluded in late January 1918. The first weapons were built and ready to ship by April 1918, as the situation in France became increasingly desperate with the rapid advance of the German army that would eventually run out of steam just short of Paris. The commander of the American Expeditionary Force (AEF), Lieutenant General John J. Pershing, wanted the weapons delivered to France as fast as possible. The primary reason for the delay between when the weapons were ready to ship and when they went into action was uncertainty as to which ports would still be in Allied hands given the rapid German advance. Efforts by the other Allies, and the U.S. Army, to develop similar long-range rail artillery were generally not completed or deployed before the armistice.

Each of the initial five batteries consisted of one 14-inch naval rifle on a special railroad car. As the newest U.S. battleships were being armed with 16-inch guns, there were a number of spare 14-inch guns that were readily available for use. The guns were assembled at a naval gun factory at the Washington Navy Yard and mated with railway carriages at the Baldwin Locomotive Works and Standard Steel Car Company in Pennsylvania. In addition to the gun car, each battery included a locomotive, two ammunition cars with 25 rounds each, two construction materiel cars, a crane, fuel, a workshop, berthing, kitchen and medical cars, all under the command of a Navy lieutenant. The five batteries were each independently mobile, but under the overall command of Rear Admiral Charles P. Plunkett, who had his own staff train. The entire unit had about 25 officers and 500 enlisted personnel.

Due to the limited traverse of the gun, a railway siding would have to be quickly constructed that pointed in the direction of the intended target, hence the construction cars. In addition, to elevate the gun, a pit had to be dug underneath the rail bed, and the rails removed due to the width of the gun breech. The Mark II components to the gun fixed these issues, but they were not ready before the war ended. The weight of the gun carriage greatly exceeded the rated capacity of French railroads, so the trains were constrained to a speed of only about five miles per hour. The mobility of the trains was their best defense, but they were subject to German aerial observation and occasional air attack and counter-battery fire. However, only one U.S. Navy crewman was killed as a result of enemy action and a number wounded.

An example of the Navy railway gun is on display at the Washington Navy Yard. This Mark I gun was used for testing in the United States and is not one of the five that deployed to France. Those were later turned over to the U.S. Army, with some serving as coastal artillery between the world wars before eventually being scrapped.

(Source: NHH Document, *United States Naval Railway Batteries in France.* )



USCGC Tampa, circa 1912 (NH 1226).

### ***Semper Paratus: Sinking of USS/USCGC Tampa, 26 September 1918***

Although the largest U.S. warship lost in World War I was the armored cruiser USS *San Diego* (ACR-6) in July 1918—see H-Gram 019—the largest loss of life in combat occurred when U.S. Coast Guard Cutter *Tampa*—operating under U.S. Navy control with a Coast Guard crew—was torpedoed and sunk by German submarine *UB-91* in the Bristol Channel on the evening of 26 September 1918 with the loss of all 131 personnel aboard.

Originally commissioned in 1912 as the cutter *Miami* in the U.S. Revenue Cutter Service in Arundel Cove, Maryland, the *Tampa* was one of the first U.S. ships to participate in the International Ice Patrol following the sinking of the liner *Titanic* by an iceberg in 1912, and she alternated deployments between Tampa, Florida, and the North Atlantic. On 28 June 1915, the Revenue Cutter Service merged with the U.S. Lifesaving Service to create the modern U.S. Coast Guard. In February 1916, *Miami* was renamed *Tampa*. Upon the entry of the United States into World War I, the U.S. Coast Guard and its 25 seagoing cutters were subordinated to the

U.S. Navy on 6 April 1917. (In message traffic during the war, the ship was referred to as USS *Tampa*.) Following replacement of her older weapons with two 3-inch guns, a pair of machine guns, and depth-charge racks and projectors, she and five other Coast Guard cutters were ordered to proceed to Gibraltar, arriving on 27 October 1917 and forming Squadron 3 of Division 6 of the Atlantic Fleet Patrol Forces.

From October 1917 until she was sunk, *Tampa* escorted 19 convoys with 420 ships between Gibraltar and the Irish Sea and the southern coast of England, during which only two ships in those convoys were lost to German U-boats. Although *Tampa* fired on several possible submarine targets, there were no confirmed interactions between her and German submarines prior to 26 September 1918. However, under the command of Captain Charles Satterlee, USCG, she did receive very high marks for her high state of readiness and morale, despite being underway over 50 percent of the time she was stationed at Gibraltar.

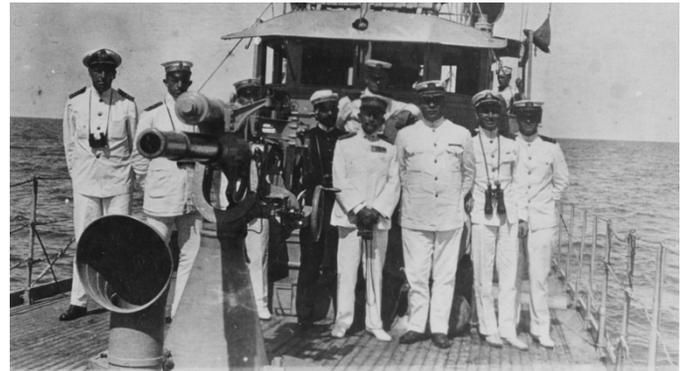
In the late afternoon of 26 September 1918, *Tampa* detached from escort of northbound 32-ship Gibraltar convoy HG-107 as the convoy entered the Irish Sea. Proceeding independently into the Bristol Channel heading for a port in Wales at about 2015, *Tampa* was hit by one torpedo fired by *UB-91*, commanded by *Kapitänleutnant* Wolf Hans Hertwig, on his second war patrol.

*UB-91* was a comparatively small Type-UB III coastal submarine—about 500 tons, 182 feet, crew of three officers and 30 enlisted personnel, speed 13 knots surfaced and 7 knots submerged, armed with one 4.1-inch deck gun, four bow torpedo tubes, one stern tube, and 10 torpedoes. The class was pretty successful: 96 were built and 95 commissioned, and were responsible for sinking 507 ships, with 37 UB III's lost in combat and four to accidents. *UB-91* sank four ships, with *Tampa* being the second.

According to *UB-91*'s log and Hertwig's account, *UB-91* was lined up for a bow shot on *Tampa* when she zigged, and he wound up taking a shot with the single stern tube at a range of about 500 yards. The torpedo hit *Tampa* on her port side amidships. At the time, visibility was fading in the darkness, and Hertwig reported the ship only as a dark shape. About two minutes after the torpedo hit, a second very large explosion and flash of light occurred, which may have been *Tampa*'s depth charges going off. All 111 Coast Guard personnel (11 officers and 100 enlisted), four U.S. Navy personnel (three officers and one enlisted), 11 Royal Navy ratings, and five Admiralty Dockyard civilian workers aboard were killed. Two enlisted U.S. Coast Guardsmen missed ship's movement at Gibraltar due to being sent to the medical clinic. Hertwig actually came to the surface and searched for survivors, but found nothing. Subsequent searches by Allied ships located one unidentified body, while three others were eventually recovered, one at sea and two washed ashore. Captain Satterlee was posthumously awarded the Navy Distinguished Service Medal. *Tampa* is named in the second verse of the Coast Guard song "Semper Paratus—Always Prepared"—in the roll of honor. In 1999, the 111 Coastguardsmen who perished on *Tampa* were awarded Purple Hearts. As a result of the sinking of *Tampa*, the U.S. Coast Guard suffered proportionately the largest casualties of all U.S. services during World War I.

*UB-91* continued her patrol, sinking two more ships, including the Japanese-flag *Hirano Maru* on 4 October 1918, during which 292 of 320 people aboard were lost. The submarine returned safely to Germany in time to be surrendered at the armistice. Of note, the largest loss of U.S. Navy life during World War I was 306 aboard the collier USS *Cyclops* (AC-4), which disappeared without a trace in March 1918. There is no evidence her loss was a result of enemy action. The worst loss of life aboard a ship by any nation during World War I was the Italian-flag transport *Principe Umberto*,

which was torpedoed by the Austro-Hungarian submarine *U-5* on 8 June 1916 with the loss of 1,926 troops and crew of 2,821 aboard. The *U-5*, one of only four operational Austro-Hungarian submarines at the start of the war, had previously been commanded by George Ritter von Trapp, who sank the French armored cruiser *Leon Gambetta*—684 of 821 men lost—on 26 April 1915 in the Strait of Otranto. Von Trapp was the pater familias of the famous Von Trapp family singers, and is the Austrian sea captain depicted in the movie *The Sound of Music*.



*U.S. and Allied naval officers onboard a U.S. Navy sub chaser during the engagement at Durazzo, Albania, 2 October 1918 (NH 121052).*

(Sources: "The Last Full Measure of Devotion: Captain Charles Satterlee, Class of 1898, Last Commanding Officer of the USCGC Tampa Sunk Over 94 Years Ago This September" by Robert M. Pendleton, Foundation for Coast Guard History; NHC *Dictionary of American Fighting Ships*—DANFS—and Uboat.net.)

### ***The Only World War I U.S. Navy Surface Action: The Second Battle of Durazzo, 2 October 1918***

The only actual surface action that U.S. Navy forces participated in during World War I was known as the Second Battle of Durazzo—present-day Durrës, Albania—in the Adriatic on 2 October 1918. Twelve U.S. Navy submarine chasers under the command of Captain Charles P. Nelson, USN, participated in a combined Italian, British, and Australian naval force against ships, submarines, and shore batteries of the Austro-Hungarian

Empire near the port of Durazzo. The 12 subchasers provided screening services for an Allied force consisting of an Italian battleship, 3 Italian armored cruisers, 3 Italian light cruisers, 5 British light cruisers, 14 British destroyers, 2 Australian destroyers, 8 Italian torpedo boats (and a partridge in a pear tree). The Austro-Hungarian naval force mostly bugged out before the battle commenced, leaving only two destroyers, a torpedo boat, and two submarines to oppose the Allies, and even they all managed to escape, albeit damaged. A heavy Italian bombardment by the armored cruisers directed at the naval base mostly succeeded in leveling a large part of the adjacent city. So, there is good reason why you probably never heard of this battle. Nevertheless, the U.S. subchasers were subjected to pretty intense enemy fire and acquitted themselves very well, inflicting significant damage on the two Austro-Hungarian submarines engaged.

In September 1918, an Allied force that had been bottled up in a quagmire at Salonika, Greece, on the Aegean Sea for well over a year finally started making progress, advancing into Macedonia and knocking Bulgaria—a German ally—out of the war. The French commander of the operation requested a naval action to prevent Austro-Hungarian reinforcements or supplies from arriving via Durazzo, the major Albanian port on the Adriatic. The Italian navy agreed, somewhat reluctantly, to the request and supplied the major capital ships as well as the commander, Rear Admiral Osvaldo Paladini. The American subchasers, which had arrived in Corfu, Greece in June 1918 to assist in trying to prevent Austro-Hungarian and German U-boats from getting in and out of the Adriatic via the Strait of Otranto, were invited to participate.

The battle began with an early-morning air attack on Austro-Hungarian troop concentrations and shore batteries by Italian and British aircraft. While the Italian battleship stood off as a covering force, the Italian and British cruisers moved in close to the port to commence a bombardment after the

American subchasers found a path through the offshore mine fields, coming under fire from shore batteries as they did so, without damage. Once through the minefields, some of the American subchasers and Allied destroyers and torpedo boats were tasked to engage the two Austro-Hungarian destroyers and torpedo boat in the port. The Austro-Hungarian ships spent the first part of the battle steaming around the harbor, dodging torpedoes and shellfire—the torpedo boat was hit by a dud torpedo—before they made their escape to the north.

The three Italian armored cruisers then engaged in a lengthy shore bombardment that proved highly destructive to the civilian areas near the port. The U.S. subchasers shifted to a screening role to protect the bombardment group from the two Austro-Hungarian U-boats that had slipped out of the port. Sub chaser *No. 129 (SC-129)* sighted the *U-29* (or *U-31*) and *SC-215* attacked with guns while *SC-128* dropped depth-charges and claimed to have sunk the sub, which was actually damaged but got away. *SC-129* then sighted and depth-charged another U-boat, which also damaged but not sunk. The shock of the depth charges crippled *SC-129*'s own engines, the most serious damage suffered by the U.S. boats that day. *U-31* succeeded in putting a torpedo into the British light cruiser *HMS Weymouth*, which blew off a large part of her stern, but did not sink her. Another British destroyer was also hit by a torpedo, but not sunk. At one point during the battle, *SC-130* headed off a column of Allied destroyers that was about to blunder into a minefield by shooting into the water ahead of the destroyers. An Austro-Hungarian steamer trapped in the harbor was the only ship on either side to be sunk during the battle, which one American submarine chaser skipper likened to “hitting a fly with a hammer.”

The American press, however, sensationalized the battle, hyping it as the “suicide mission” of the U.S. subchasers, which wasn't exactly the case. However, as the first surface engagement for the

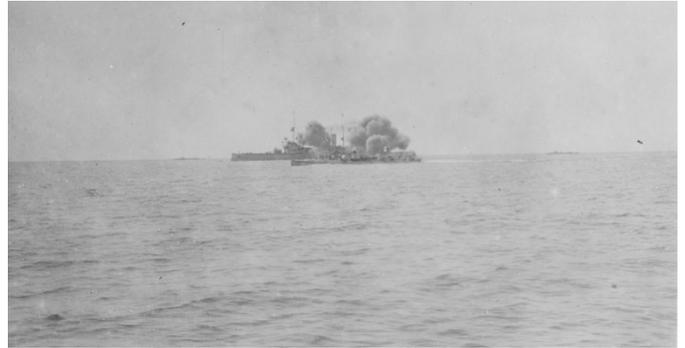
U.S. Navy since the Spanish-American War, the mostly very junior and inexperienced crews of the sub chasers acquitted themselves well. Captain Nelson was awarded the Navy Distinguished Service Medal and a variety of foreign awards, and would later be promoted to rear admiral.

The United States built 441 SC-1-class submarine chasers between 1917 and 1919 in response to direction from Assistant Secretary of the Navy Franklin D. Roosevelt in 1916 to have the boats designed, so that if war came, they could be built en masse in civilian shipyards. The Navy deployed 121 SC boats to the European Theater, and their trans-Atlantic crossings were in many cases epic tales of survival in high seas and foul weather. Eventually, 36 SC boats would operate from "Base 25" in "American Bay" on the Greek island of Corfu, supported by the tender USS *Leonidas* (AD-7)—named after King Leonidas of 300 Spartans/Battle of Thermopylae fame—where they participated in the Strait of Otranto patrol. The 110-foot-long, gasoline-powered boats were generally armed with a 3-inch deck gun, machine guns, and depth-charge projectors, and had rudimentary hydro-acoustic listening devices—"K-tubes" and "MB-tubes"—and perhaps most importantly, radio-telephones that enabled them to operate efficiently as a coordinated group. Although there are no confirmed cases of a submarine chaser actually sinking a submarine during World War I, their sheer numbers and ubiquity no doubt disrupted many attempted submarine attacks.

(Source: *America's Sailors in the Great War: Sea, Skies, and Submarines* by Lisle A. Rose, a very readable, concise, and well-researched treatment of the U.S. Navy's contribution during World War I.)



*Italian cruisers bombarding the port of Durazzo, 2 October 1918 (NH 123805).*



*Royal Navy destroyers in action at Durazzo, 2 October 1918 (NH 123809).*